PRENATAL EXPOSURE TO ALCOHOL AND DRUGS AMONG INFANTS IN ARIZONA IN 2004

Some prenatal substance exposure can be identified through a review of vital records and hospital utilization data, although estimates derived from these data should be thought of as an undercount. In order for an infant to be identified from these sources, the infant must exhibit some kind of sign or symptom, and then be identified and diagnosed with a code that indicates substance exposure.

Some infants who are exposed to alcohol or drugs prenatally never exhibit symptoms, or exhibit them later in life. Fetal alcohol syndrome, in particular, often goes undiagnosed until a child is much older and begins to show physical features associated with the syndrome. Additionally, some cases are recognized by a clinician, but are not coded in the database with codes indicating fetal alcohol syndrome, fetal alcohol spectrum disorder, or prenatal drug exposure. Only cases that were actually diagnosed and coded as indicating substance exposure are reflected in the estimates provided in this paper. It should also be noted that the Arizona Department of Health Services Hospital Discharge Data Base, which is the source of hospital data, does not include data from Indian Health or United States military facilities.

The Phoenix Area Indian Health Service reported 202 inpatient hospitalizations with drug or alcohol exposure diagnoses. Of those, 157 had a diagnosis of fetal alcohol syndrome, 30 were exposed to other drugs, and 15 had a combination of drugs and alcohol exposure. It is not clear whether some of these cases also appear in the hospital discharge data. Incidence estimates do not include these data.

The following estimates are based on a review of birth and death certificates and hospital data for infants during their first year of life. Data are presented separately for alcohol and other drugs, although there were some babies who showed evidence of being exposed to both, and are counted in each measure.

INCIDENCE OF PRENATAL ALCOHOL EXPOSURE

- 35 infants were identified as having been exposed to alcohol during the prenatal period.
- Incidence rate = **0.37 per 1000 live births** ([35 / 93,396]*1000).
- 33 cases were identified through inpatient hospital data during the child's first year of life, including one who died before hospital discharge.[1] There was no mention of fetal alcohol syndrome on the death certificate.
- 2 infants were identified with fetal alcohol syndrome on birth certificates.

[1] Hospital cases of fetal exposure to alcohol were identified by one of the following ICD9 codes in any of the nine positions: 655.40 and 760.71.

- No cases were identified through death certificates or fetal death certificates,[2] or emergency department data.
- Infants spent 218 days in the hospital for prenatal exposure to alcohol, at a total cost of $578,478.
- Risk prevalence for fetal alcohol exposure: 13% of women of childbearing age were at risk for becoming pregnant during 2004, and 43% of them said that they had consumed alcohol during the previous 30 days.[3] All of these women may be seen as risking prenatal alcohol exposure, since there is no known safe amount of alcohol that may be consumed during pregnancy.

INCIDENCE OF EXPOSURE TO OTHER DRUGS

- 564 infants were identified as having been exposed to drugs other than alcohol during the prenatal period, representing an **incidence rate of 6.0 per 1000 live births and fetal deaths** (564 / [93,396 + 505] = 6.0).
- 13 deaths were associated with prenatal exposure to drugs – 5 were identified from death certificates,[4] 7 from fetal death certificates, and one was identified as dying in the emergency department, although the death certificate listed sudden infant death with no reference to drugs.
- Among the 5 death certificates, 2 were primarily attributed to drugs, 3 had drugs as contributing causes.
- Among the 7 fetal deaths, 2 cases indicated drug exposure in the supplemental cause of death fields, and 5 listed drugs as an "other condition"
- There were 549 infants admitted to the hospital[5] due to prenatal drug exposure, with some of them being admitted more than once during 2004, for a total of 566 separate hospital stays, and totaling 4,438 hospital days.
- 4 infants were seen in the emergency department with a diagnosis related to prenatal drug exposure during 2004.
- The total hospital charges for both inpatient and emergency department utilization related to prenatal drug exposure was $9,053,650 in 2004.

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[2] ICD10 codes used to identify cases in the death and fetal death files were: O35.4, Q86.0, P04.3 in any of the three cause of death fields. The "other conditions" field was searched for text indicating alcohol exposure.

[3] Data Source is the Behavior Risk Factor Surveillance System (BRFSS), a telephone survey conducted by the State with the assistance of the Centers for Disease Control. Respondents are randomly selected using methods designed to obtain a representative sample of the state. Results from the 2004 BRFSS were used to estimate the proportion of women of childbearing years that are at risk for exposing a fetus to alcohol. Women were considered to be at risk for pregnancy if they were of childbearing age, had not been sterilized, were not using birth control, and did not indicate that they were not sexually active.

[4] ICD10 codes used to identify cases in the death and fetal death files were: O35.5, P04.4, or P96.1 in any of the three cause of death fields. The other conditions field was searched for text indicating drug exposure.

[5] Hospital cases of fetal exposure to drugs were identified by one of the following ICD9 codes in any of the nine positions: 760.72, 760.73, 760.75, 779.5, 655.50 and 648.3. This may be an overestimate of prenatal exposure as codes 760.72, 760.73, and 760.75 include exposure via breastmilk.

EXPOSURE TO ALCOHOL AND OTHER DRUGS

There were 13 infants with evidence of being exposed to both alcohol and other drugs during the prenatal period. These infants are already included in each set of statistics above. The following table summarizes statistics separately for each substance, as well as showing the overall totals.

	Total Infants	Emergency Department Visits	Inpatient Hospital Stays	Inpatient Hospital Days	Hospital Charges
Alcohol Only	20	0	20	95	$222,022
Alcohol and Other Drugs	13	0	13	123	$356,456
Other Drugs Only	536	4	553	4,315	$8,697,194
Total	**569**	**4**	**586**	**4,533**	**$9,275,672**

Child Protective Services Division of the Arizona Department of Economic Security collects data on substance-exposed newborns (SEN) during a CPS investigation. Of those maltreatment cases reported to CPS, for fiscal year 2005, 1,721 infants under 12 months had a positive newborn toxicology screen. Of those, 423 children were removed from their home. Of the maltreatment cases reported to CPS for fiscal year 2004, 1,473 infants under 12 months had a positive newborn toxicology screen. Of those, 338 children were removed from their home.